AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include a new sheet for FIG. 1, and changes to FIGs. 2, 4, 6a and 6b.

Attachment: New FIG. 1
Replacement sheets for FIGs. 1, 2, 4, 6a and 6b
Annotated sheet(s) for FIGs. 2, 4, 6a and 6b showing changes

REMARKS

Is response to the Office Action mailed December 18, 2006, Applicants respectfully request reconsideration. Claims 1-28 were previously pending in this application. Claims 1, 8, 15 and 22 have been amended. As a result, claims 1-28 are pending for examination with claims 1, 8, 15, and 22 being independent. No new matter has been added.

In response to the issues raised in the Office Action, Applicants have extensively reviewed the specification. The prosecution of the present application has been transferred to the Applicant's representative in a form that required numerous corrections in both the specification and drawings. Accordingly, a substitute specification is submitted herein. No new matter has been introduced by the substitute specification.

Objections to the Drawings

The Office Action objected to the drawings as failing to comply with 37 CFR 1.84(p)(5), 37 CFR 1.84(p)(4) and 37 CFR 1.83(a). Applicants have amended the drawings and have attached herein a substitute drawing sheet for FIG. 1 and replacement sheets and annotated sheets showing changes in FIGs. 2-6b. Accordingly, withdrawal of this objection is respectfully requested.

Objections to the Specification

The Office Action objected to the specification as containing at informality. Applicants have made amendments to the specification to address Examiner's concerns. Accordingly, withdrawal of this objection is respectfully requested.

Rejections Under 35 U.S.C. §102

The Office Action rejected claims 1, 4-7, 15, 18-21 under 35 U.S.C. 102(b) as allegedly being anticipated by Boyd et al., 6,721,806, hereinafter Boyd. Applicants respectfully disagree.

Claim 1, as amended, recites

> A method for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier, the identifier associated with a memory

location in the multiple network interface device, to a second device, the identifier and an associated data field capable of being received by the second network interface, the method comprising:

receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field by the second device;

passing the identifier to the program component;

querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory;

identifying, by the program component, that the first network interface sent the identifier; and

transmitting a memory location associated with the identifier to the second network interface, the second network interface capable of transmitting the associated data field to the memory location associated with the identifier. (Emphasis added.)

Boyd is directed to supporting RNIC (RDMA enabled NIC) switchover and switchback. The mechanism is provided such that when a planned or unplanned outage occurs on a primary RNIC, all outstanding connections are switched over to an alternate RNIC, and the alternate RNIC continues communication processing (Abstract). A distributed computing system having endnodes, switches, routers, and links interconnecting these components is provided. The endnodes can be Internet Protocol Suite Offload Engines (IPSOE) or traditional host software based Internet protocol suites. Each endnode uses send and receive queue pairs to transmit and receive messages (col. 4, lines 13-18). A single IP Suite Offload Engine, such as IPSOE 300A, can support thousands of queue pairs. Each queue pair consists of a send work queue (SWQ) and a receive work queue (RWQ) (col. 7, lines 45-48; Fig. 3A). The verb consumer 1156 accesses the primary RNIC 1100 and alternate RNIC 1104 through the verbs 1152 and the verbs driver and library 1148. The verbs consumer 1156 determines that primary RNIC 1100 and alternate RNIC 1104 support switchover/switchback (S/S) by invoking the RNIC management query verb 1124 and 1136 respectively. The RNIC management query verb returns the RNIC capabilities, which, in this exemplary embodiment, include a field that indicates the RNIC supports switchover/switchback (S/S). The verb consumer 1156 next uses the RNIC management modify verb 1124 and 1136 to assign a range of Queue Pairs (QPs), Completion Queues (CQs), and Memory Translation and Protection Table (TPT) entries to S/S and non-S/S support. As a

result of successfully completing the RNIC modify verb, the primary RNIC 1100 and alternate RNIC 1104 share a common QP, CQ, and Memory TPT range (col. 14, lines 21-39).

Boyd does not teach or suggest "a method for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier sent by the first network interface, the identifier associated with a memory location in the multiple network interface device, to a second device, the identifier and an associated data field capable of being received by the second network interface, the method comprising: receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field by the second device; passing the identifier to the program component; querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory; identifying, by the program component, that the first network interface sent the identifier...," as recited in claim 1.

In view of the foregoing, claim 1 patentably distinguishes over Boyd.

Claims 2-7 depend from claim 1 and are allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 1-7 is respectfully requested.

Claim 8, as amended, recites

> a method for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising:
>
> **receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer;**
>
> **sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer;**
>
> **passing the identifier received from the remote computer to the program component;**
>
> **searching the list of identifiers for the identifier;**
>
> **if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and**

if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer.

(Emphasis added.)

As discussed above, Boyd does not teach or suggest "a method for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer; sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer; passing the identifier received from the remote computer to the program component; searching the list of identifiers for the identifier; if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer," as recited in claim 8.

In view of the foregoing, claim 8 patentably distinguishes over Boyd.

Claims 8-14 depend from claim 8 and are allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 8-14 is respectfully requested.

Claim 15, as amended, recites

a computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier, the identifier associated with a memory location in the multiple network interface device to a second device, the identifier and an associated data field capable of being received by the second network interface; the acts comprising:

receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field by the second device;

passing the identifier to the program component;

querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory;

identifying, by the program component, that the first network interface sent the identifier; and

transmitting a memory location associated with the identifier to the second network interface, the second network interface capable of transmitting the associated data field to the memory location associated with the identifier.

(Emphasis added).

As discussed above, Boyd does not teach or suggest "a computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a multiple network interface device, after the first network interface sends an identifier, the identifier associated with a memory location in the multiple network interface device to a second device, the identifier and an associated data field capable of being received by the second network interface; the acts comprising: receiving a message from the second network interface by a program component, the message indicating the reception of the identifier and the associated data field by the second device; passing the identifier to the program component; querying the first network interface to supply the program component with a list of identifiers sent by the first network interface and associated memory locations in multiple network interface device memory; identifying, by the program component, that the first network interface sent the identifier...," as recited in claim 15.

In view of the foregoing, claim 15 patentably distinguishes over Boyd.

Claims 16-21 depend from claim 15 and are allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 15-21 is respectfully requested.

Rejections Under 35 U.S.C. §103

The Office Action rejected claims 2-3, 8-14, 16-17, 22-28 under 35 U.S.C. 103(a) as allegedly being unpatentable over Boyd et al., 6,721,806, hereinafter Boyd, in view of the Internet Draft document "RDMA Protocol Verbs Specification" by Jeff Hilland., hereinafter Hilland. Applicants respectfully disagree. Even if Boyd and Hilland were combined as set forth in the Office Action, the claims still distinguish over such combination.

Claim 22, as amended, recites

a computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at

least a second network interface in a host computer including the first network interface and the second network interface, the method comprising:

receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer;

sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer;

passing the identifier received from the remote computer to the program component;

searching the list of identifiers for the identifier;

if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and

if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer.

(Emphasis added).

As discussed above, Boyd does not teach or suggest "a computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising: receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer; sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer; passing the identifier received from the remote computer to the program component; searching the list of identifiers for the identifier; if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer," as recited in claim 22. Hilland does not teach or suggest the above limitations of claim 22.

Therefore, neither Boyd nor Hilland teaches or suggests "a computer readable medium having stored therein instructions for performing acts for transferring control between a first network interface and at least a second network interface in a host computer including the first network interface and the second network interface, the method comprising: receiving an identifier from a remote computer by the at least a second network interface, the identifier sent by the first network interface and associated with a memory location in the host computer; sending a message to a program component indicating the reception of the identifier, the program component configured to query the first network interface for a list of identifiers sent by the first network interface and associated memory locations in the host computer; passing the identifier received from the remote computer to the program component; searching the list of identifiers for the identifier; if the list of identifiers includes the identifier received from the remote computer, receiving a memory location associated with the identifier; and if the list of identifiers does not include the identifier received from the remote computer, invalidating the identifier received from the remote computer," as recited in claim 22.

In view of the foregoing, claim 22 patentably distinguishes over the cited references and is in condition for allowance.

Claims 23-28 depend from claim 22 and are allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 22-28 is respectfully requested.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

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